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EXAMINER	
PHAM, HUNG Q	
ART UNIT	**PAPER NUMBER**
2168	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/732,771	BENNETT ET AL.	
	Examiner	Art Unit	
	HUNG Q. PHAM	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) *12-18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

- *Claim Rejections - 35 USC § 101*

Applicants' request for withdrawal of the rejection under 35 U.S.C. § 101 in view of the amendment of claim 1 has been fully considered. Examiner respectfully declines the request because the claims do not require any physical transformation and the invention as claimed does not produce a useful, and tangible result in view of MPEP 2106 (IV)(C)(2)((B))((2))(a) and (b)[1].

As described in the Specification at page 13 lines 15-25,

> *... a decompression engine 64 accesses the trie structure 60_1 and returns a suitable output. As described below, the input is typically representative of a word, such as a string of text or a number representing a word. The output is some information related to the input, such as the word itself, a number representing the word, or some value related to the word. For example, a word processing application may provide a string of text to a decompression engine 64, whereby the decompression engine 64 searches the trie 60_1 and returns a TRUE value if the word is present in the trie 60_1 and a FALSE value if not present.*

In light of the Specification, the specification discloses a practical application of a section 101 judicial exception, but the claim is broader and does not require a practical application.

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[1] MPEP 2106 (IV)(C)(2)((B))((2))(a) and (b):
For an invention to be "useful" it must satisfy the utility requirement of section 101. The USPTO's official interpretation of the utility requirement provides that the utility of an invention has to be (i) specific, (ii) substantial and (iii) credible. MPEP § 2107 and Fisher, 421 F.3d at 1372, 76 USPQ2d at 1230 (citing the Utility Guidelines with approval for interpretation of "specific" and "substantial"). In addition, when the examiner has reason to believe that the claim is not for a practical application that produces a useful result, the claim should be rejected, thus requiring the applicant to distinguish the claim from the three 35 U.S.C. 101 judicial exceptions to patentable subject matter by specifically reciting in the claim the practical application. In such cases, statements in the specification describing a practical application may not be sufficient to satisfy the requirements for section 101 with respect to the claimed invention. Likewise, a claim that can be read so broadly as to include statutory and nonstatutory subject matter must be amended to limit the claim to a practical application. In other words, if the specification discloses a practical application of a section 101 judicial exception, but the claim is broader than the disclosure such that it does not require a practical application, then the claim must be rejected.

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a 35 U.S.C. 101 judicial exception, in that the process claim must set forth a practical application of that judicial exception to produce a real-world result.

Particularly, the claimed limitation *decompressing the tree based on the node information* is not a real world result. The real world result in light of the specification is a suitable output, e.g., TRUE or FALSE, after decompressing in response to an input.

In light of the foregoing arguments, the 35 U.S.C. § 101 is hereby sustained.

- *Claim Rejections - 35 USC § 112*

The rejection of claim 1 under 35 U.S.C. § 112, first paragraph, has been withdrawn in view of the amendment of claim 1.

- *Claim Rejections - 35 USC § 102*

Applicants' arguments with respect to the rejection of claim 1 under 35 U.S.C. § 102 have been considered but are moot in view of the new ground(s) of rejection.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

Claim 2 is objected to because of the following informalities: ***the tag information field*** (*a tag information field* is respectfully suggested). Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claimed invention is directed to non-statutory subject matter because the claim does not require any physical transformation and the invention as claimed does not produce a useful, and tangible result.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 1, the claimed limitations, ***identifying a tag bit in a first of the node section, the tag bit having a setting for indicating multiple tagging in the first node, identifying a tag mask field in the first node based on the setting of the tag bit*** and ***decompressing the trie based on the node information*** was not described in the specification (As illustrated in the Specification at page 21 lines 19-24, multiple tagging is identified by the tag information field 74 and not by ***a tag bit*** as claimed. Assumingly, the description at page 25 lines 4-5 is the process of *generating node information*, the trie decompressing process based on the generated node information as claimed was not described).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As in claim 3, the wherein clause ***wherein evaluating each setting in the tag mask field comprises...*** references to a non-existed limitation. The step of evaluating has been deleted in claim 1. It is unclear what limitation is being referenced.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-8 and 11 are rejected under 35 U.S.C. 102(a) as being anticipated by Knuth [The Art of Computer Programming].

Regarding claims 1 and 11, Knuth teaches ***a computer-implemented method for decompressing a trie including a node section containing a plurality of nodes***, the method comprising:

identifying a tag bit in a first node of the node section, the tag bit having a setting for indicating multiple tagging in the first node (As disclosed by Knuth at pages 498-499, SKIP field of node ϵ of nodes α, γ and ϵ as *a tag bit in a first node of the node section* is identified by SKIP field of γ, SKIP field having a setting, e.g., KEY, LLINK, RLINK, LTAG, RTAG, SKIP, indicating LTAG and RTAG, e.g., the dotted lines, as *multiple tagging*);

identifying a tag mask field in the first node based on the setting of the tag bit, the tag mask field being attached to the first node and including a plurality of bits (As disclosed by Knuth at pages 498-499, 1 as *a tag mask field in the first node* is identified based on the setting SKIP field of γ, and attached to ϵ. In binary number, 1 is represented by "10");

generating node information based on settings of each bit in the tag mask field ("10" is "1" in decimal number and (12 +1) bit as *node information* is generated);

decompressing the trie based on the node information (the search goes back to γ node based on (12 +1) bit).

Regarding claim 2, Knuth teaches all of the claimed subject matter as discussed above with respect to claim 1, Knuth further discloses the step of ***evaluating the tag information field to determine that the trie was constructed to have at least one node with a multiple tag field*** (As disclosed by Knuth at page 499, to search for particular key words in Patricia trie, LTAG or RTAG as *tag information field* is evaluated to determine whether a node is pointed to with the structure as discussed above or *a node with multiple tag fields* exists or not).

Regarding claim 3, Knuth teaches all of the claimed subject matter as discussed above with respect to claim 1, Knuth further discloses ***the tag mask field comprises a bitmask, and wherein evaluating each setting in the tag mask field comprises checking the value of each bit in the bitmask*** (As disclosed by Knuth at pages 498-499, "12" as *a bitmask*, and the calculation of (12 +1) indicates *checking the value of each bit in the bitmask* when representing in binary number).

Regarding claim 4, Knuth teaches all of the claimed subject matter as discussed above with respect to claim 3, Knuth further discloses the step of ***evaluating information in a header of the trie to determine a size of the bitmask*** (Knuth, page 499, the size of SKIP is evaluated and determined).

Regarding claim 5, Knuth teaches all of the claimed subject matter as discussed above with respect to claim 1, Knuth further discloses the step of ***checking a value field to determine which tags have values associated therewith*** (LTAG or RTAG is checked to determine pointer, a pointer is presented if TAG bit is 1).

Regarding claim 6, Knuth teaches all of the claimed subject matter as discussed above with respect to claim 1, Knuth further discloses the step of ***at least one tag has a value associated therewith, and checking a value size array field to determine a size for each value associated with a tag*** (Page 499, LLINK, RKINK LTAG and RTAG).

Regarding claim 7, Knuth teaches all of the claimed subject matter as discussed above with respect to claim 1, Knuth further discloses the step of ***checking a value size array field to determine which tags have values associated therewith*** (Page 499, LLINK, RKINK LTAG and RTAG).

Regarding claim 8, Knuth teaches all of the claimed subject matter as discussed above with respect to claim 7, Knuth further discloses the step of ***checking the value size array field to determine a size for each value associated with a tag*** (Page 499, LLINK, RKINK LTAG and RTAG).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knuth [The Art of Computer Programming] in view of the Admission [BACKGROUND OF THE INVENTION, pages 1-4].

Regarding claim 9, Knuth teaches all of the claimed subject matter as discussed above with respect to claim 1 but fails to teach ***the first node includes at least one partial enumeration count.***

As disclosed in the Background of The Invention, the claimed limitation ***the first node includes at least one partial enumeration count*** is disclosed from Page 3 Line 13 to Page 4 Line 9.

The Patricia's tree can be used for a dictionary and by include an enumeration number to a word, a synonym can be searched and returned to a user.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to include an enumeration number to a node in order to find a synonym for a word.

Regarding claim 10, Knuth teaches all of the claimed subject matter as discussed above with respect to claim 1, but fails to teach ***the node includes a partial enumeration count for at least one of the tags.***

As disclosed in the Background of The Invention, the claimed limitation ***the node includes a partial enumeration count for at least one of the tags*** is disclosed from Page 3 Line 13 to Page 4 Line 9.

The Patricia's tree can be used for a dictionary and by include an enumeration number to a synonym tag, a synonym can be searched and returned to a user.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to include an enumeration number to a node in order to find a synonym for a word.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q. PHAM whose telephone number is 571-272-4040. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIM T. VO can be reached on 571-272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you

would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HUNG Q PHAM
Examiner
Art Unit 2168

November 2, 2006